S. G. LEYSON.

SURGICAL APPLIANCE.

APPLICATION FILED DEC. 1, 1909.

992,013. **Patented May 9, 1911.**

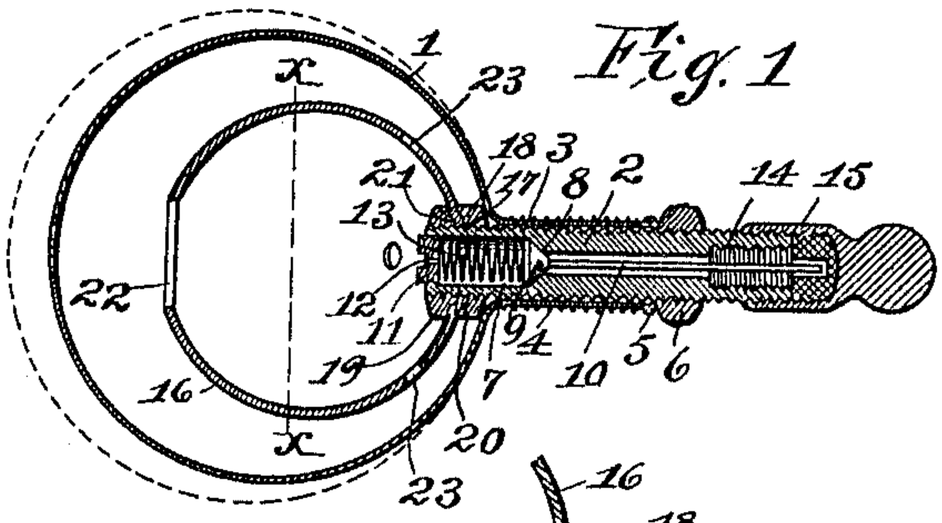

Fig. 1

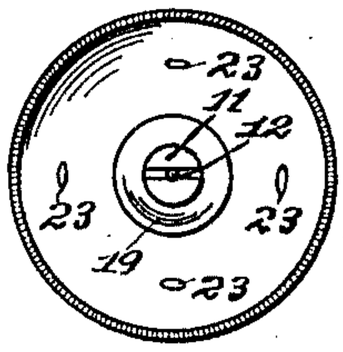

Fig. 4.

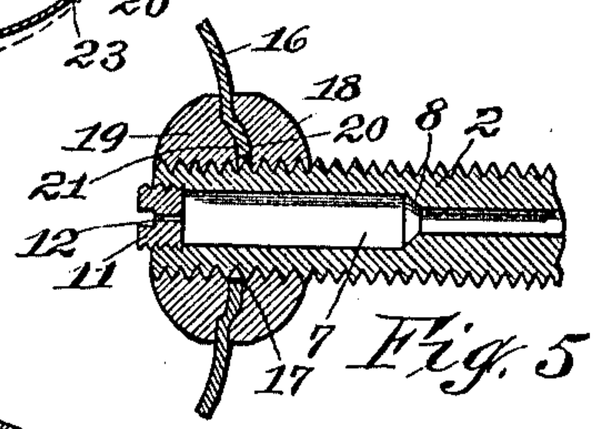

Fig. 5

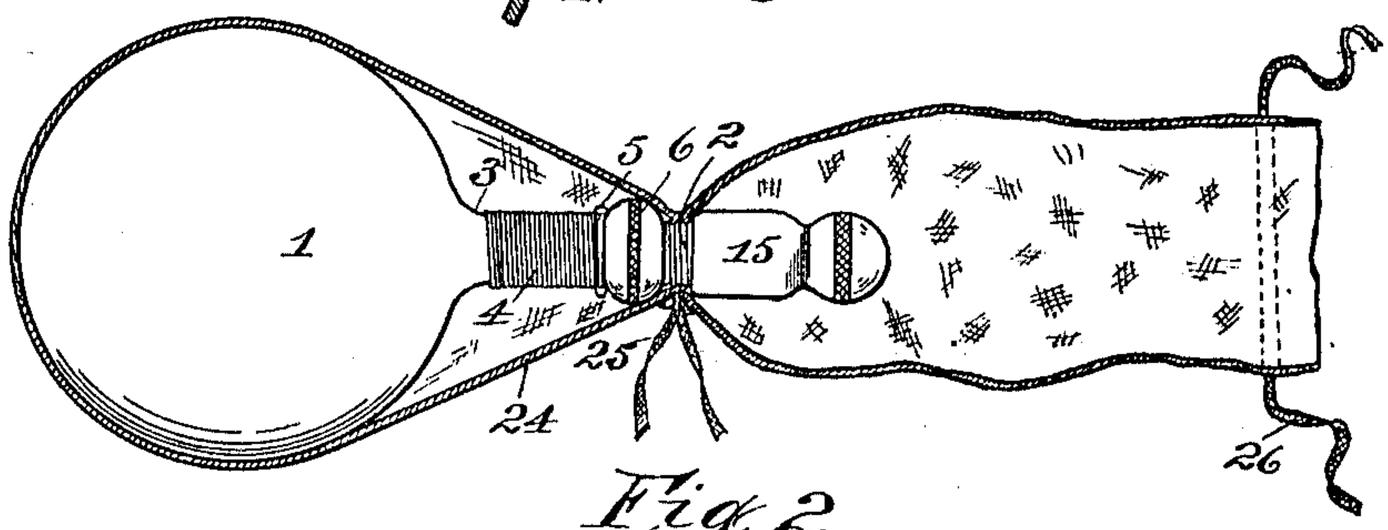

Fig. 2

Fig. 3

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SURGICAL APPLIANCE.

992,013. Specification of Letters Patent. Patented May 9, 1911.

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To all whom it may concern:

Be it known that I, SACKVILLE G. LEYSON, a citizen of the United States, and resident of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Surgical Appliances, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to remedial devices which are designed to be used by the female sex as a vaginal appliance for the treatment and prevention of uterine disorders, which appliances are termed pessaries.

The main object of the present invention is to produce a pessary which will serve very effectually for the purpose intended and more particularly as a safe and reliable support to guard against prolapsus.

Furthermore, the object of the invention is to provide an appliance which can be easily and conveniently handled in the operation of placing it in required position and removing from the wearer, without liability of injury to parts of the body with which it may come in contact, and at the same time will readily admit of regulation while in position, so as to meet the conditions surrounding the part to be treated or supported, and thus insure comfort of the wearer and also obtain the desired results.

To that end the invention consists in the novel arrangement and combination of the component parts of the remedial appliance hereinafter fully described and set forth in the claims.

In the accompanying drawings Figure 1 is a longitudinal section of the appliance embodying my invention, the flexible antiseptically-treated sheath being removed; Fig. 2 is a side view of the appliance with the sheath shown in section; Fig. 3 is a side view showing the sheath tied, whereby the appliance is adapted to be worn by the person desiring treatment or relief; Fig. 4 is a transverse section on line —X—X—; and Fig. 5 is an enlarged detail longitudinal sectional view showing more clearly the attachment of the flexible hollow-ball to the air-tube.

My invention comprises essentially an inflatable body —1— composed of thin rubber and secured detachably to a tube —2— which is preferably formed of hard-rubber and serves to conduct the air in the operation of inflating and deflating the said body. The said tube is provided with an external screw-thread which is preferably cut the entire length thereof. The said body is of such shape as to assume the form of a spherical bulb when inflated, and to attach the body to the tube —2—, I form the same with a comparatively long external tubular neck —3— adapted to be slipped over one end of the tube and extend partway the length thereof.

To securely hold the neck in its attachment and at the same time guard against the leakage of air, I wind upon the neck a cord —4— consisting preferably of a piece of fine silk or cat-gut drawn tightly around the neck whereby the inner surface of the neck is pressed into the threads of the tube, and to prevent the cord from becoming loose, I apply a coating of shellac or other suitable adhesive substance to the wound cord. The outer end of the neck is preferably formed with an external bead —5— which abuts against a screw-thread collar —6— applied to the tube. The inner end portion of the air-tube —2— is counterbored as shown at —7— to form a conical seat —8— for a correspondingly shaped valve —9— which is attached to one end of a stem —10—, the outer end of which stem projects from the outer end of the tube. The counter-bore —7— is threaded for the reception of a plug —11— provided with a small central longitudinal air - passage —12—, and between the inner end of the plug and valve is disposed a spiral-spring —13— which holds the valve normally closed. The outer end portion of the tube —2— is also counter-bored as indicated at —14— and is screw-threaded internally thereat for the attachment of a suitable hand-operated air-pump for inflating the body —1—, and to the exterior of said end portion is applied a removable cap —15—.

—16— denotes a yielding spherical cushion consisting of an ordinary non-expansible rubber-ball provided within the body —1— and which is considerably smaller than said body when the latter is inflated. The said ball is arranged eccentrically in relation to the inflated body with its center disposed on the line of the axis of the tube —2—, and toward the attachment of the body to the tube so as to permit the body to be compressed to the required degree when in proper position, and at the same time to obtain the desired cushioning effect of the ball

incident to the pressure of the body on said ball.

To detachably connect the ball in the required position, I extend the tube —2— into the body for a short distance so as to enter an aperture —17— in the ball, and provide the latter with two collars —18—19— screwed onto the tube and between which the said ball is clamped. To insure a more secure connection of said ball and thus guard against the leakage of air, the collar —18— is provided in its inner face with an annular recess —20—, and adjacent face of the collar —19— is formed with a correspondingly shaped shoulder —21—, whereby the interposed rubber is firmly pinched when the collars are tightened as more clearly shown in Fig. 5 of the drawings. Diametrically opposite the aperture —17— the ball is provided with an aperture —22— of sufficient size to permit the collar —19— to be passed therethrough, incident to the compression of the ball, so as to allow the said collar to be applied to and removed from the tube —2— in the operation of attaching the ball to and detaching it from the tube. It will be understood that the detachment and attachment of the ball is effected while the inflatable body is detached from the said tube. The ball is also provided with a series of small openings —23—23— for the passage of the air as shown in Fig. 1.

—24— denotes a flexible sheath which incloses the described device when in use. This sheath is composed of fine silk or gauze which is antiseptically treated and it serves to protect the wearer of the device from any infection which might be caused by contact with the rubber or metal of which the parts of the device is composed. Said sheath is made in the form of a sack, and is composed of quality of fabric which will easily stretch so as to permit the body —1— to be inflated to the desired degree.

To secure the sheath over the structure, I provide the same with a shirring-tape or cord —25— which is exposed and is designed to be drawn around the tube —2— and tied preferably in front of the collar —6—. I prefer to make this sheath of sufficient length to extend a considerable distance beyond the cap —15—, and provide its open end with a shirring-tape —26— for closing the said end. Before closing the end and tying the tape —26—, the portion of the sheath between the two tapes is filled with medicated absorbent-cotton or other suitable material. By providing the sheath with the filling the device is rendered very sanitary in its use. It will be understood that when the body —1— is placed in proper position, a suitable air-pump is applied to the tube —2—.

In the operation of pumping the air into the tube, the valve —9— is forced to admit the air into the body and thus causes the latter to be inflated, the air being retained in the body by the said valve which is closed by the spring. Inasmuch as the body is composed of very thin rubber, it can be made to expand to a great degree if desired according to conditions, and if found to have been expanded to such an extent as to discomfort the wearer of the device, the air may be easily and conveniently released by removing the cap and pressing the valve-stem inward to open the valve.

It is obvious that when the body is properly positioned by the wearer and inflated so as to be expanded to the requisite size, that it will serve very effectually for the purpose stated. It is also obvious that by providing the rubber-ball in the forward portion of the inflatable body, a very efficient cushion effect is produced when the wearer assumes certain positions, and thus the part under treatment is free from liability of becoming injured.

What I claim as my invention is:—

1. A device for the purpose specified comprising a tube for the passage of air, a check-valve in one end of said tube, an inflatable expansible body detachably secured on the opposite end of the tube and having the tube projecting into it, and a cushion consisting of a perforated compressible ball disposed within the body and provided with an aperture through which the tube is inserted, and means within the ball and at the exterior thereof for securing it to the tube as set forth.

2. A device for the purpose specified comprising an inflatable body, an air-tube secured detachably at one end to the body and extending into the body, a spherical compressible cushion disposed within the body and provided with small apertures for the passage of air and having a large aperture receiving through it the adjacent end of the tube, and means for securing said cushion to the tube as set forth.

3. A device for the purpose specified comprising a valved air-tube screw-threaded externally throughout its length and provided with pump-attaching means at one end, an inflatable expansible body formed with a tubular neck secured upon the opposite end portion of the tube and having the tube projecting thereinto, a cushion within the body and consisting of a perforated hollow compressible ball provided with an aperture receiving the projecting portion of the tube, and a pair of collars screwed onto the tube and clamping the apertured portion of the ball between them as set forth.

4. A device for the purpose specified comprising an externally threaded air-tube for the attachment of a pump to one end thereof, an inflatable expansible body formed with a tubular neck applied to the exterior of one

end portion of the tube and the tubular neck formed on its outer end with a bead, a collar applied to the opposite end of the tube and adapted to abut against the bead, a valve disposed within the tube, a spring normally closing the said valve, a cushion within the body and consisting of a hollow compressible ball having perforations for the passage of air and provided with an aperture receiving the end of the tube, and a pair of collars on the tube clamping the apertured portion of the ball between them, one of said collars being formed in its inner face with an annular recess and the other collar formed on its adjacent face with a correspondingly shaped shoulder as set forth.

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